

What is claim d is:

1. A magnet assembly for a plasma process chamber, the magnet assembly comprising:
 - (a) a hollow collar comprising a cross-section that is absent seams, the collar having an open end face;
 - (b) a cap to seal the open end face; and
 - (c) a plurality of magnets in the hollow collar, the magnets being insertable through the open end face.
2. A magnet assembly according to claim 1 wherein the hollow collar is sized to be capable of diametrically expanding to snap fit a wall of the process chamber.
3. A magnet assembly according to claim 1 wherein the hollow collar is shaped to fit into a corresponding groove on a wall of the process chamber.
4. A magnet assembly according to claim 3 further comprising a retaining ring to retain the hollow collar in the groove of the wall of the process chamber.
5. A magnet assembly for according to claim 1 further comprising a key on an external surface of the hollow collar to couple to a corresponding slot on the surface of a wall of the process chamber.
6. A magnet assembly according to claim 1 wherein the plurality of magnets abut one another to generate an annular magnetic field about the process chamber.
7. A magnet assembly according to claim 1 wherein the plurality of magnets are positioned in the hollow collar such that their south poles are directed upwardly and the north poles are directed downwardly.

8. A magnet assembly according to claim 1 wherein the plurality of magnets are positioned in the hollow collar such that the magnetic axes of the magnets are oriented perpendicular to a wall of the process chamber.

9. A magnet assembly according to claim 8 wherein the plurality of magnets are positioned such that a first set of magnets have their magnetic axis oriented in one direction, and the second set of magnets have their magnetic axis oriented in the opposite direction.

10. A magnet assembly according to claim 9 further comprising one or more pole pieces coupling the first and second set of magnets.

11. A magnet assembly according to claim 9 further comprising a separator wall between the first and second sets of magnets.

12. A magnet assembly of claim 1 comprising a plurality of hollow collars, wherein each hollow collar is a segment of a ring sized to fit around a wall of the process chamber.

13. A plasma process chamber comprising at least one wall having the magnet assembly of claim 1 fitted thereon, the process chamber further comprising:

- (i) a substrate support;
- (ii) a gas supply to provide process gas;
- (iii) a gas energizer to energize the process gas; and
- (iv) an exhaust to exhaust the process gas.

14. A chamber according to claim 13 wherein the wall of the chamber comprises a groove to receive the magnet assembly.

15. A chamber according to claim 13 wherein the hollow collar of the magnet assembly is capable of diametrically expanding to snap fit the wall of the process chamber.

16. A chamber according to claim 1 comprising a pair of concentric walls that each comprise a magnet assembly.

17. A chamber according to claim 16 wherein in one of the magnet assemblies, the plurality of magnets are positioned in the hollow collar such that the magnetic axes of the magnets are oriented perpendicular to the wall of the process chamber; and wherein

in the other magnet assembly, the plurality of magnets are positioned such that a first set of magnets have their magnetic axis oriented in one direction, and the second set of magnets have their magnetic axis oriented in the opposite direction.

18. A method of refurbishing a wall of a plasma process chamber, the wall comprising a surface having a fitted magnet assembly, the magnet assembly comprising (i) a hollow collar having a cross-section that is absent seams and an open end face, (ii) a first cap sealing the open end face; and (iii) a plurality of magnets in the hollow collar, the method comprising:

- (a) removing the fitted magnet assembly from the wall;
- (b) cleaning the surface of the wall; and
- (c) fitting the same magnet assembly or another magnet assembly on the wall.

19. A method according to claim 18 wherein the magnet assembly comprises a plurality of hollow collars, each hollow collar being a segment of a ring sized to fit around the wall of the chamber.

20. A method according to claim 20 wherein the magnet assembly is snap fitted onto the wall.